

## Claims

What is claimed is:

**[c1]** A windowframe capacitor, comprising:

a housing having a bottom surface and a top surface, wherein an aperture is formed in a central portion thereof extending from the top surface to the bottom surface; and

capacitive material disposed within the housing to create a desired amount of capacitance;

wherein the bottom surface is provided with electrical connections adapted to be connected to a substrate.

**[c2]** The windowframe capacitor of Claim 1, wherein the aperture is rectangular.

[c3] The windowframe capacitor of Claim 1, wherein the capacitive material comprises a layer of an electrically conductive material and a layer of a dielectric material.

[c4] The windowframe capacitor of Claim 3, wherein the housing is made from a plastic material.

[c5] The windowframe capacitor of Claim 1, wherein said electrical connections provided on the bottom surface comprise a ball grid array.

[c6] The windowframe capacitor of Claim 1, wherein the capacitive material and the housing comprise co-fired ceramic.

- [c7] The windowframe capacitor of Claim 1, wherein the aperture is configured to fit over a semiconductor die, and wherein said electrical connections are configured for connection to a package substrate on which the semiconductor die is mounted.
- [c8] A semiconductor package assembly, comprising:
- a semiconductor die mounted on a portion of a top surface of a package substrate;
- and
- a windowframe capacitor having an aperture formed therein, and mounted on the top surface of the package substrate surrounding the semiconductor die.
- [c9] The semiconductor package assembly of Claim 8, further comprising an electronic component mounted on a top surface of the windowframe capacitor.
- [c10] The semiconductor package assembly of Claim 8, further comprising a second windowframe capacitor mounted on a top surface of the first windowframe capacitor.
- [c11] The semiconductor package assembly of Claim 8, wherein the aperture is rectangular.
- [c12] The semiconductor package assembly of Claim 8, wherein the windowframe capacitor comprises a housing.
- [c13] The semiconductor package assembly of Claim 12, wherein the windowframe capacitor comprises a capacitive material disposed within the housing.
- [c14] The semiconductor package assembly of Claim 13, wherein the capacitive material comprises a layer of an electrically conductive material and a layer of a dielectric material.

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